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Oregon Trail School District Population and Enrollment Forecasts, 2018-19 to 2027-28

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**OREGON TRAIL SCHOOL DISTRICT
ENROLLMENT FORECASTS
2018-19 TO 2027-28**



Portland State
UNIVERSITY
Population Research
Center



DECEMBER 2017

**OREGON TRAIL SCHOOL DISTRICT
ENROLLMENT FORECASTS
2018-19 TO 2027-28**

**Prepared By
Population Research Center
Portland State University**

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DECEMBER 2017

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EXECUTIVE SUMMARY

This report presents three scenarios of district-wide enrollment forecasts by grade level for the Oregon Trail School District (OTSD) for the 10-year period between 2018-19 and 2027-28. Each enrollment forecast scenario relates to population forecasts that incorporate different assumptions about growth within the District, with the primary differences being the contribution of net migration to the District's population and age distribution. Individual school forecasts consistent with the middle series scenario are also presented for the 10-year period.

Population Trends

- Between 2000 and 2010, total population within the OTSD grew from 24,104 persons to 28,038: an Average Annual Growth Rate (AAGR) of 1.5 percent. The City of Sandy increased from 5,425 persons to 9,655, an AAGR of 5.9 percent. During this time Clackamas County overall had an AAGR of 1.1 percent.
- Between 2010 and 2017 the OTSD AAGR was 1.6 percent, slightly higher than the 2000-2010 decade. The District's population rose to 31,375 in 2017.
- Between 2000 and 2006, OTSD births increased by 41, peaking at 328. They then declined for a few years as the recession and slow recovery took hold. Births resumed their upward trend in 2011, peaking at a new high of 342 in 2015.

Economic Trends

- Thirty-seven percent of employed OTSD residents work within Clackamas County, with 20 percent working within the area of the school district itself. Forty percent work Multnomah County, with 26 percent and 10 percent commuting to the cities of Portland and Gresham respectively. Ten percent work at various locations within Washington County.
- After three years of recession related job losses Clackamas County added 20,100 jobs between 2010 and 2016, reaching a high of 155,200 jobs.

- After reaching a high of 10.4 percent in 2009, the County's unemployment rate dropped to 4.4 percent in 2016.

Housing Growth and Characteristics

- Between 2000 and 2007 the City of Sandy averaged 150 Single Family Residence building permits per year. During the next five years (2007-2012) SFR permits dropped precipitously to an annual average of 46. During the most recent five years the annual average for permits in the City of Sandy improved to about 85.
- Among the three middle school attendance areas, 71 percent of the 383 SFRs built in OTSD between 2013 and 2016 were in Boring. Cedar Ridge MSAA had 23 percent and Welches six percent.
- For undeveloped lots in subdivisions under construction, permitted but not yet under construction, or in the application process, the Boring MSAA has the largest share among OTSD MSAA's, about 73 percent. Additionally, there three apartment projects under land use or plan review in the City of Sandy, totaling 167 units. 143 of these units would be built in the Boring MSAA.

Enrollment Trends

- OTSD Fall 2017 enrollment was 4,419, with increases each year since 2010-11. The total increase for the 10 year period was 321 students (eight percent).
- For the first five years of the 10-year historical period OTSD enrollment increased by two percent overall. During the second five years it increased by six percent.

District-wide Enrollment Forecast: MIDDLE SERIES

- For the first five years of the 2018-19 TO 2027-28 Middle Series forecast, Grades K-5 has the largest increase of the three grade groupings: nine percent (180 students). Grades 6-8 grows by five percent (55 students) and 9-12 by seven percent (104 students).
- During the second five years, grades 6-8 is the largest gainer (15 percent, 158 students). Grades K-5 increases by five percent (98 students) and 9-12 grows by three percent (53 students).

- Total enrollment goes up by 648 students (15 percent) over the entire 10-year forecast period and all three-grade groupings increase in enrollment. The largest gains by single grade are 8th (29 percent) 2nd (28 percent), and 9th (24 percent).

District-wide Enrollment Forecast: LOW SERIES

- District enrollment for the 10 year forecast period increases by 379 students (nine percent).
- Grades 6-8 increase by 14 percent (140 students). Both K-5 and 9-12 have increases of seven percent (139 and 100 students respectively).

District-wide Enrollment Forecast: HIGH SERIES

- District enrollment for the 10 year forecast period increases by 924 students (21 percent).
- Grades 6-8 grow by 27 percent (275 students). K-5 increases by 21 percent (410 students) and grades 9-12 grow by 16 percent (239 students).

Enrollment Forecasts for Individual Schools

- All OTSD schools gain enrollment over the forecast period, with the exception of Welches MS, which declines by 13 students.

Table 1 summarizes historic and forecast K-12 enrollments by five-year intervals for the Middle series forecast. Table 2 displays historic and forecast enrollment for the Middle, Low and High scenarios. Chart 1 depicts history and the three forecasts graphically.

Table 1
Enrollment History and Middle Series Forecast
Oregon Trail School District

	Actual			Forecast	
	2007-08	2012-13	2017-18	2022-23	2027-28
K-5	1,780	1,774	1,943	2,123	2,221
5 year change		-6	169	180	98
6-8	907	1,022	1,014	1,069	1,227
5 year change		115	-8	55	158
9-12	1,411	1,391	1,462	1,566	1,619
5 year change		-20	71	104	53
Total*	4,098	4,187	4,419	4,758	5,067
5 year change		89	232	339	309

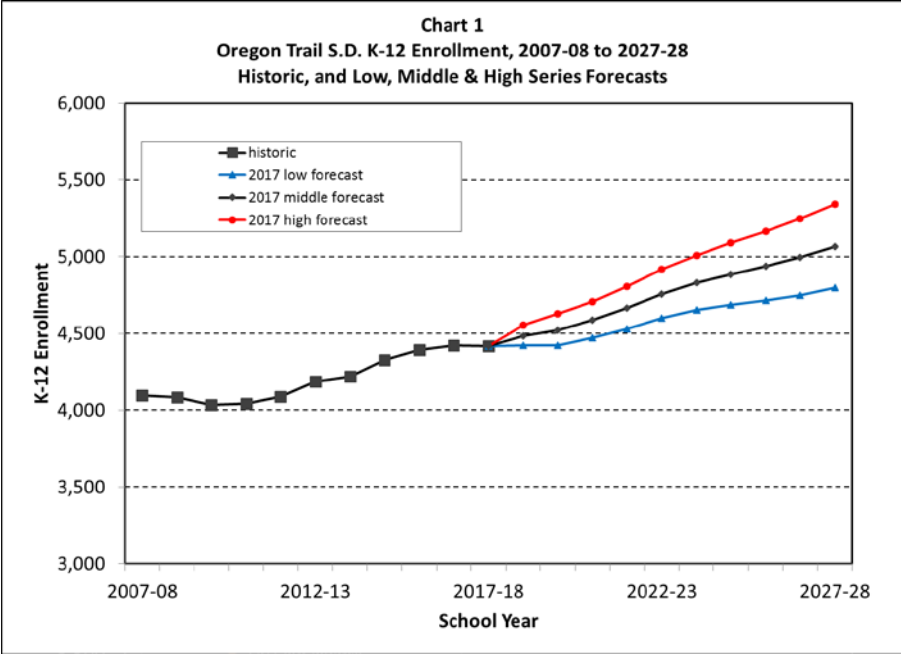
Source: Historic enrollment, Oregon Trail School District; Enrollment forecasts, Population Research Center, PSU, November 2017

Table 2
Historic and Forecast Enrollment
Oregon Trail School District

School Year	LOW		MIDDLE		HIGH	
	Enroll- ment	5 year growth	Enroll- ment	5 year growth	Enroll- ment	5 year growth
2007-08	4,098		4,098		4,098	
2012-13	4,187	89	4,187	89	4,187	89
2017-18	4,419	232	4,419	232	4,419	232
2022-23 (fcst.)	4,600	181	4,758	339	4,915	496
2027-28 (fcst.)	4,798	198	5,067	309	5,343	428
AAEG*, 2017-18 to 2027-28	0.8%		1.4%		1.9%	

*Note: Average Annual Enrollment Growth.

Source: Historic enrollment, Oregon Trail School District; Enrollment forecasts, Population Research Center, PSU. November 2017.



INTRODUCTION

The Portland State University Population Research Center (PRC) has prepared long range enrollment forecasts for the Oregon Trail School District (OTSD). PRC's previous enrollment forecasts for OTSD were prepared in February, 2012. This study integrates information about OTSD enrollment trends with local area population, housing, and economic trends, and includes forecasts of district-wide enrollment by grade level and total enrollment for individual schools for the period between 2018-19 and 2027-28. Information sources include the U.S. Census Bureau, birth data from the Oregon Center for Health Statistics, geographic shape files from Clackamas County and Metro, county population forecasts from the Oregon Office of Economic Analysis, employment trends from the Oregon Employment Department, and housing development and planning data from the City of Sandy and Clackamas County.

The District, formed from the 1997 consolidation of the Sandy Union High School District and the Cottrell, Welches, and Sandy Elementary Districts, serves the northeastern portion of Clackamas County, from the community of Boring on the west to Mt. Hood on the east. The only incorporated city within the District is Sandy. The OTSD encompasses 424 square miles. In spite of recent growth in the City of Sandy, 65 percent of the District's residents lived in unincorporated Clackamas County in 2017.

Following this introduction are sections presenting recent population, housing, employment, and enrollment trends within the District. Next are the results of the district-wide enrollment forecasts and individual school forecasts, and a description of the methodologies used to produce the forecasts. The final section contains a brief discussion of the nature and accuracy of forecasts. Appendix A includes the district-wide population and enrollment forecasts for the low and high growth scenarios and Appendix B is a profile comparing the results of the 2000 and 2010 censuses for the District. Appendix C contains a brief District profile based upon two recent American Community Survey data sets.

POPULATION, EMPLOYMENT, AND HOUSING TRENDS

Population

Between 2000 and 2010, total population within the OTSD grew by 3,934 persons, from 24,107 to 28,038. The District's Average Annual Growth Rate (AAGR) of 1.5 percent was greater than Clackamas County's 1.1 percent. Growth in the decade was particularly strong in the City of Sandy, which grew by 4,188 persons (77 percent) resulting in a 5.9 percent AAGR. The share of the District's population living within the City of Sandy increased from 22 percent in 2000 to 34 percent in 2010.

During the 2010-2017 period growth in OTSD continued at a slightly higher AAGR of 1.6 percent, resulting in an increase of 3,337 persons. Growth in the City of Sandy declined from its relatively high AAGR during 2000-2010, but was still higher than the District's unincorporated areas, the District overall, and Clackamas County. OTSD's unincorporated areas, which lost 296 persons between 2000 and 2010, rebounded with a population increase of 2,137 between 2010 and 2017.

The 2000, 2010 and 2017 populations of the District, the City of Sandy and Clackamas County are shown in Table 3.

Table 3
City and Region Population, 2000, 2010, and 2017

	2000	2010	2017	Avg. Annual Growth Rate	
				2000-2010	2010-2017
OTSD Total ¹	24,104	28,038	31,375	1.5%	1.6%
City of Sandy ²	5,425	9,655	10,855	5.9%	1.9%
OTSD Unincorporated	18,679	18,383	20,520	-0.2%	1.8%
Clackamas County	338,391	375,992	413,000	1.1%	1.5%

1. School District population determined by PSU-PRC based on aggregation of census blocks within the OTSD boundary shapefiles. The 2017 estimate is based on an extrapolation of 2010-2016 growth estimated by the Census Bureau. See <http://www.census.gov/did/www/saie>.

2. A small part of the City of Sandy's population growth resulted from the annexation of 28 persons between 2000 and 2006.

Sources: U.S. Census Bureau, 2000, and 2010 censuses; Portland State University Population Research Center, July 1, 2017 estimates

Births and Fertility Rates

Between 2000 and 2016 Births in OTSD followed an upward trend. The lowest point of the period was 2005 with 252 births, and 2015 recorded the highest at 342. The decline from 2006 through 2010 was likely a response to the recession and slow recovery, and the average of the two most recent years (333) exceeded the pre-recession high of 328. OTSD births appear in Chart 2 and Table 4.

The total fertility rate (TFR) is one measure for fertility; it is an estimate of the number of children that would be born to the average woman during her childbearing years based on age-specific fertility rates observed at a given time. The estimated TFR for OTSD decreased from 2.05 in 2000 to 2.02 in 2010. Comparatively, the TFRs in 2000 were 2.02 for Clackamas County and 1.98 for the State, while in 2010 the they were 1.89 for the County and 1.82 the State.

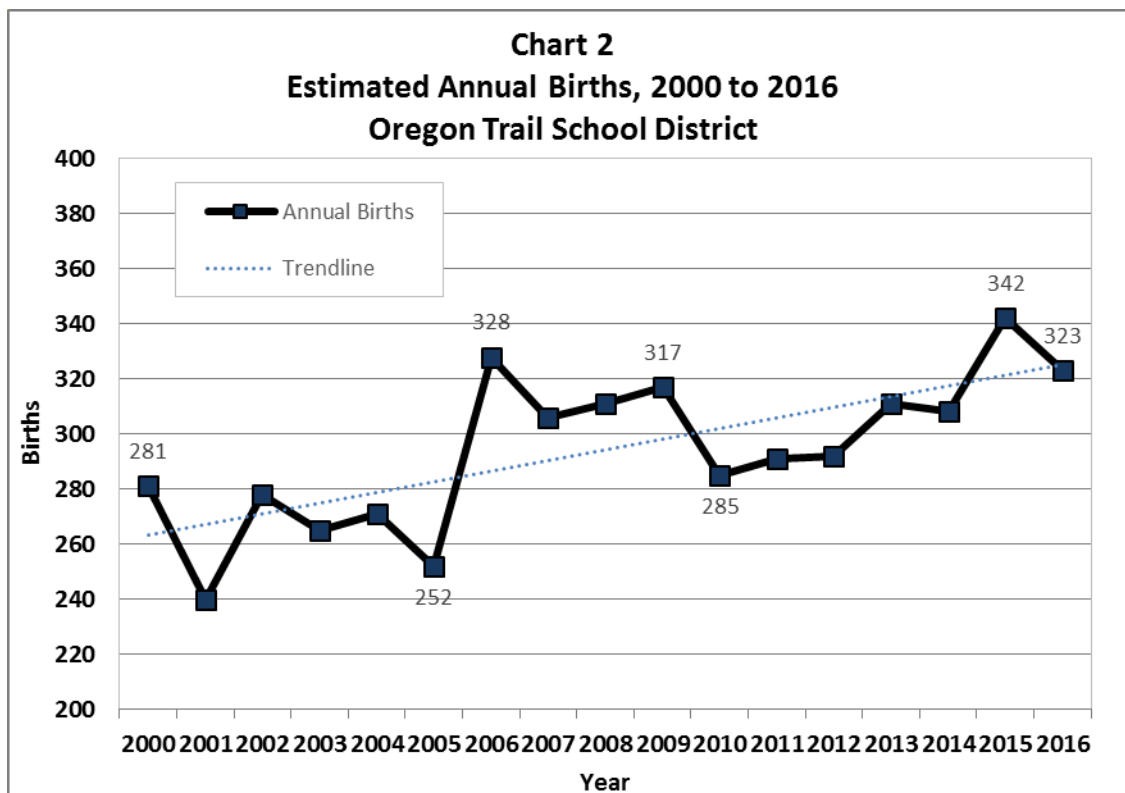


Table 4
Annual Births, 2000 to 2016
Oregon Trail School District

Year	Births
2000	281
2001	240
2002	278
2003	265
2004	271
2005	252
2006	328
2007	306
2008	311
2009	317
2010	285
2011	291
2012	292
2013	311
2014	308
2015	342
2016	323

Source: 2000-2016 birth data from Oregon Center for Health Statistics allocated to OTSD boundary by PSU-PRC.

Employment

The District is part of the Portland metropolitan area labor market, and most residents commute outside of the District to work, so population growth in the area depends to a great extent on the strength of the metro area's economy. Twenty percent of workers residing within the District also work within it. Altogether, 37 percent of working residents stay within Clackamas County for their employment. Forty percent commute to Multnomah County and 10 percent to Washington County. Twenty-six percent and 10 percent work in the Cities of Portland and Gresham respectively.

Table 5
Where OTSD Residents Are Employed

Job Located Within*	Workers	Share
Multnomah County, OR	4,869	40%
<i>Portland city, OR</i>	3,197	26%
<i>Gresham city, OR</i>	1,178	10%
Clackamas County, OR	4,481	37%
<i>Oregon Trail School District</i>	2,382	20%
<i>Sandy city, OR</i>	1,110	9%
<i>Mount Hood Village CDP, OR</i>	314	3%
<i>Government Camp CDP, OR</i>	217	2%
Washington County, OR	1,177	10%
<i>Tigard city, OR</i>	232	2%
<i>Beaverton city, OR</i>	259	2%
<i>Hillsboro city, OR</i>	209	2%
Marion County, OR	470	4%
Clark County, WA	237	2%
Lane County, OR	122	1%
All Other Locations	746	6%
Total Primary Jobs	12,102	100%

**Note: Indentation indicates that the area is also included within the area above it. For example, workers in the City of Sandy are also counted in the Clackamas County. Portions of the City of Portland are outside of Multnomah County, but few jobs are located in those areas.*

Source: U.S. Census Bureau. 2017. OnTheMap Application. Longitudinal-Employer Household Dynamics Program. 2nd Quarter 2015 data. Includes at most one (primary) job per resident. <http://onthemap.ces.census.gov/>

Between 2004 and 2007 Clackamas County added 12,600 jobs, nine percent over the three year period. Growth slowed in early 2008, and in October 2008 the county began to post year-to-year job losses. Between 2007 and 2010 the County lost 13,400 jobs, roughly the nine percent it had gained between 2004 and 2007. After 2010 job growth increased through 2016 by an average of 3,350 jobs per year. The two most recent years, 2015 and 2016, posted the highest annual job gains of the 2004 to 2016 period, 6,300 and 4,900 respectively¹.

Clackamas County's unemployment rate rose from 4.6 percent in 2007, equal to the U.S. rate, to 10.4 percent in 2009, a little over one percentage point above the U.S. rate. The Portland metro area's unemployment rate increased 5.9 percentage points to 10.9 percent during the period. Between 2009 and 2016, Clackamas County's rate dropped six percentage points to 4.4 percent. Portland Metro's rate in 2016 was 4.7 percent a little higher than the 4.9 percent U.S. rate.

In July 2016, the Oregon Employment Department offered this assessment of Clackamas County future employment growth:

Clackamas County will grow by nearly 24,000 jobs by 2024 according to the latest projections published by the Research Division of the Oregon Employment Department. This translates into a growth rate of 15.0 percent; slightly faster than the state as a whole (+13.9%) and significantly faster than the nation (6.5%)...While thousands of jobs will be created over the coming years by economic growth – new or expanding companies – many existing jobs will become open due to replacement needs, predominantly due to retirements. In fact, for every 2 jobs created due to economic growth, 3 existing jobs will become vacant. In total, Clackamas County employers will need to fill 61,000 job openings between 2014 and 2024².

Housing Growth and Characteristics

During the 2000 to 2010 period, the District added about 2,700 housing units, as shown in Table 6. The smaller increase of about 2,000 households (occupied housing units) was due to an increase in vacancy rates, from 18.5 percent in 2000 to 20.3 percent in 2010. The rate may be misleading, because nearly three quarters of the “vacant” units reported in the census are

¹ “Current Employment Estimates,” Oregon Employment Department, OLMIS. Average annual non-farm employment in the Clackamas County was 148,500 in 2007, 135,100 in 2010, and 155,200 in 2016.

² “Nearly 24,000 New Jobs Forecasted for Clackamas County, 2014-2024,” Oregon Employment Department.

designated “for seasonal, recreational, or occasional use” such as the many vacation cabins and condos on Mount Hood. Vacant units designated “for sale or rent” in 2010 were just 3.1 percent of the District’s housing units, nearly identical to the 3.2 percent observed in 2000.

The net increase of 322 households with children under 18 during the 20 year period from 1990 to 2010 was small compared with overall gain of 3,367 households. As a result, the share of households with children fell from 41 percent in 1990 to 36 percent in 2000 and 31 percent in 2010. The average number of persons per household also decreased, from 2.77 in 1990 to 2.67 in 2000 and 2.57 in 2010. Factors contributing to the decreases in household size and share of households with children include the rapid growth in the population age 45 and over and declining fertility rates.

Table 6
Oregon Trail School District
Housing and Household Characteristics, 1990, 2000, and 2010

	1990	2000	2010	Change	
				'90 to '00	'00 to '10
Housing Units	9,373	11,021	13,695	1,648	2,674
Households	7,546	8,980	10,913	1,434	1,933
Households with children under 18 <i>share of total</i>	3,058 41%	3,265 36%	3,380 31%	207	115
Households with no children under 18 <i>share of total</i>	4,488 59%	5,715 64%	7,533 69%	1,227	1,818
Household Population	20,920	23,975	28,000	3,055	4,025
Persons per Household	2.77	2.67	2.57	-0.10	-0.10

Source: U.S. Census Bureau, 1990, 2000, and 2010 Censuses; data aggregated to OTSD boundary by Portland State University Population Research Center.

Residential building permit activity between 2000 and 2016 within the City of Sandy appears in Chart Three. Between 2000 and 2007, Single Family Residence (SFR) permits averaged about 150 per year. During the next five years (2007-2012) SFR permits dropped precipitously to an

annual average of 46. After reaching a low point of 32 in 2012, SFRs began to rebound, averaging 85 permits annually in the period 2013 through 2017³.

Between 2000 and 2005, Multiple Family Residence (MFR) permits averaged around 40 units per year. From the beginning of the recession in 2007 through 2017 MFR permits have been spotty, with an average of seven units annually. MFRs in 2017 though, were about twice that average.

³ Permits for 2017 are Jan through Oct only. 2017 number is pro-rated for full year in the average. The pro-rated number is 68 permits.

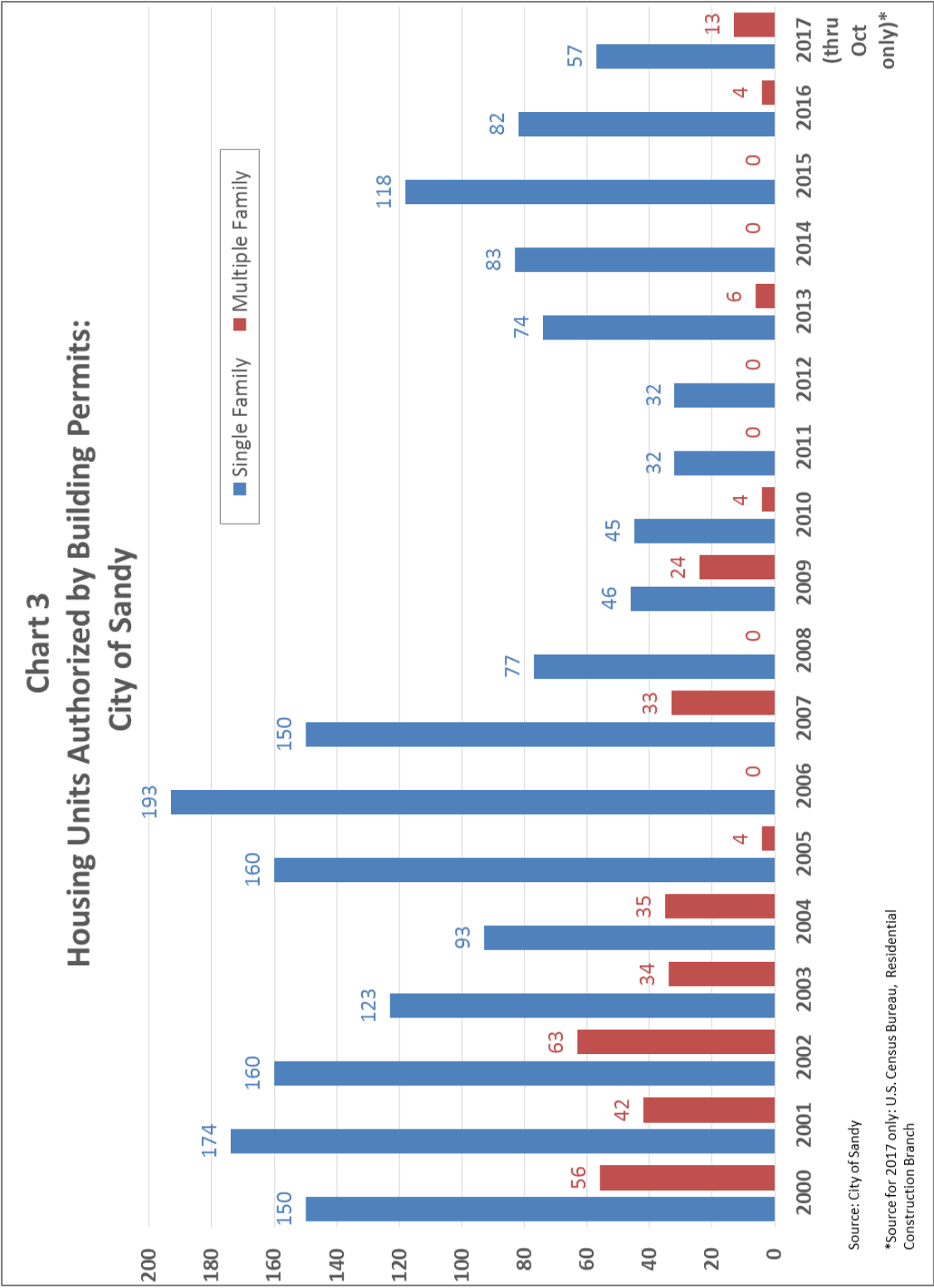


Table 7 details OTSD SFR construction by Elementary School Attendance Area (ESAA) between 2001 and 2016. Roughly, the numbers reflect the economic cycle. Between 2001 and 2008 there were a total of 1749 units built. The effects of the recession and slow recovery slowed construction declined considerably, with a total of 646 units built between 2009 and 2016. The 2013-2016 period shows an improvement of 120 units over the 2009-2012 period, as construction activity increased in the most recent few years

Among middle school attendance areas during the most recent four year period, 71 percent of SFR construction took place in the Boring MSAA, 23 percent in Cedar Ridge, and six percent in Welches. During this period, the Kelso ESAA had the largest construction share of the five elementary areas at 51 percent.

Overall, about 66 percent of OTSD SFRs have been built within the City of Sandy, and the remaining 34 percent in the unincorporated areas of the District.

Table 7
OTSD Single Family Residences by
Year Built and Attendance Areas

Elementary School Attendance Area	Years 2001-2004	Years 2005-2008	Years 2009-2012	Years 2013-2016	Total SFR
Firwood Elementary	282	343	52	75	752
Kelso Elementary	252	41	86	194	573
Naas Elementary	75	86	48	60	269
Sandy Grade*	89	300	43	31	463
Welches Elementary	144	137	34	23	338
Total SFRs by ESAA	842	907	263	383	2395

Middle School Attendance Area	Years 2001-2004	Years 2005-2008	Years 2009-2012	Years 2013-2016	Total
Boring Middle*	380	305	158	272	1115
Cedar Ridge Middle*	318	465	71	88	942
Welches Middle	144	137	34	23	338
Total SFRs by MSAA	842	907	263	383	2395

*"Sandy Grade West" ESAA splits as a feeder between Boring MS and Cedar Ridge MS

Source: Taxlot Files, RLLS

Table Eight displays undeveloped lots in subdivisions under construction, permitted but not yet under construction, or in the application approval process. Kelso ESAA has the largest number of lots (89) followed by Naas ESAA (47). The Boring MSAA (Kelso, Naas, and a portion of Sandy) contains 143 of these lots (73 percent). Thirteen subdivisions are within the City of Sandy, and five are in unincorporated areas of OTSD.

The City of Sandy has three apartment projects in land use or plan review: Sandy Heights Apartments (138 units), Doug Fir Apartments (24 units) and Cashatt Apartments (5 units). Sandy Heights and Cashatt are within the Boring MSAA portion of Sandy ESAA and Doug Fir is in the Firwood ESAA. Additionally, there are 10 remaining undeveloped units of the 15 unit Trimble PD duplex project located in the Boring MS portion of Sandy ESAA.

Table 8
Single Family Subdivisions,
Undeveloped Lots Remaining,
Oregon Trail School District

File No.	Elementary Area	Subdivision Name	Vacant Platted, Tentative Platted, or Planned Lots in Review*
04-013	Sandy	Timberline Trails	2
04-051	Naas	Salmon Creek Estates	3
05-003	Naas	Champion Village	44
05-016	Kelso	Snowberry	5
12-031	Kelso	Pioneer Meadows	29
13-020	Sandy	Tickle Creek Terrace	7
15-002	Sandy	Idleman Park	4
15-008	Firwood	Zion Meadows	27
15-019	Firwood	Fleischman Estates 3	2
15-048	Kelso	View Point	6
16-039	Kelso	Mt. View Ridge (Birdsong)	38
n/a	Sandy	City Townhomes	6
n/a	Kelso	Marin's Viewpoint	6
Z0180-15	Firwood	Wildcat Mountain	5
Z0500-16	Welches	59831 E HWY 26	3
Z0227-16	Welches	Gomes	5
Z0137-17	Kelso	Kelson Woods	5

*Sources: Compiled by Population Research Center, PSU; primary information from City of Sandy and Portland Metro. *Includes subdivisions under construction, permitted but not yet under construction, and applications in the approval process.*

ENROLLMENT TRENDS

Fall 2017 enrollment in all OTSD schools was 4,419. Total enrollment increased each year since 2010-11. Over the entire 2007-08 to 2017-18 historic period enrollment increased by 321 students (eight percent). The largest numeric share in that time was in K-5 (163 students) while the largest percentage share was in grades 6-8 (12 percent).

Growth was slower in the first half of the 10 historical years, with an addition of 89 students (two percent). Growth accelerated in the second half, with an increase of 232 students (six percent).

High school grades recorded the smallest growth among the grade groupings. After a 20 student decrease in the first five historical years, grades 9-12 enrollment grew by 71 in the last 5 years, posting a total growth of 51 (four percent).

OTSD Historic Enrollment, 2007-08 to 2017-18 is displayed in Table 9.

Table 9
Oregon Trail School District, Historic Enrollment, 2007-08 to 2017-18

Grade	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
K	260	250	253	259	279	297	308	307	296	322	323
1	263	282	272	276	282	304	324	341	319	269	323
2	324	272	285	276	279	298	308	328	333	309	288
3	303	331	282	288	276	275	288	320	339	353	319
4	313	330	337	281	296	286	289	298	324	340	340
5	317	315	323	334	313	314	284	305	311	333	350
6	306	332	332	330	342	326	322	303	312	327	354
7	310	319	337	348	348	341	315	341	327	320	340
8	291	319	320	341	356	355	340	335	342	333	320
9	370	308	326	351	345	383	392	359	393	389	361
10	357	364	305	320	343	349	373	391	360	410	364
11	349	329	329	291	308	333	332	365	371	344	382
12	335	332	335	346	322	326	344	333	365	373	355
Total	4,098	4,083	4,036	4,041	4,089	4,187	4,219	4,326	4,392	4,422	4,419
K-5	1,780	1,780	1,752	1,714	1,725	1,774	1,801	1,899	1,922	1,926	1,943
6-8	907	970	989	1,019	1,046	1,022	977	979	981	980	1,014
9-12	1,411	1,333	1,295	1,308	1,318	1,391	1,441	1,448	1,489	1,516	1,462

5 Year Change:			5 Year Change:			10 Year Change:		
2007-08 to 2012-13			2012-13 to 2017-18			2007-08 to 2017-18		
Change	Pct.		Change	Pct.		Change	Pct.	
K-5	-6	0%	169	10%		163	9%	
6-8	115	13%	-8	-1%		107	12%	
9-12	-20	-1%	71	5%		51	4%	
Total	89	2%	232	6%		321	8%	

Source: Oregon Trail School District.

Enrollment Trends at Individual Schools

Over the most recent five years, OTSD elementary schools as a group grew by a little over 10 percent. Three of the schools increased enrollment, led by Naas and Kelso. Two schools, Firwood and Welches, had small declines. Between 2012-13 and 2016-17 Firwood averaged 463 students per year but fell 30 students below that average in 2017-18. Welches remained close to its average of 208 throughout the period.

OTSD middle schools all had enrollment declines during the period. Incoming 6th grade classes tended to be smaller than the outgoing 8th grade classes, and Oregon Trail Primary Academy expanded into middle school grades during this time. Welches MS accounted for about two thirds of the overall middle school decline, while Boring was nearly level with a drop of two students. Sandy high school increased by 43 students (three percent).

OTSD Historic Enrollment by School 2012-13 to 2017-18 is displayed in Table 10.

Table 10
Oregon Trail School District, Historic Enrollment by School, 2012-13 to 2017-18

School	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	5 Year Change: 2012-13 to 2017-18
Firwood Elementary School	440	476	477	465	457	433	-7
Kelso Elementary School	313	314	361	351	361	373	60
Naas Elementary School	312	333	364	406	392	408	96
Sandy Grade School	329	316	326	334	343	353	24
Welches Elementary School	214	199	209	204	211	209	-5
Elementary School Totals	1,608	1,638	1,737	1,760	1,764	1,776	168
Boring Middle School	416	378	387	418	401	414	-2
Cedar Ridge Middle School	442	421	402	388	407	424	-18
Welches Middle School	137	127	113	96	94	99	-38
Middle School Totals	995	926	902	902	902	937	-58
Sandy High School	1,391	1,441	1,448	1,469	1,489	1,434	43
Oregon Trail Academy	193	214	239	261	267	272	79
District Totals	4,187	4,219	4,326	4,392	4,422	4,419	232

Source: Oregon Trail School District.

Private and Home School Enrollment and District “Capture Rate”

Private schools within the OTSD enroll local students as well as students from beyond the OTSD boundaries; conversely, OTSD residents attend private schools beyond the District’s boundaries, so the number of students enrolled in private schools physically located within the District cannot be used to measure overall private school share. The best source for private school enrollment by residence is census household survey data. The Census Bureau’s American Community Survey (ACS) includes questions about school enrollment by level and by type (public or private). The ACS estimate from OTSD households surveyed between 2012 and 2016 indicates that 12 percent (+/-3.7 percent) of OTSD K-12 residents are enrolled in private schools

Another difference between OTSD enrollment and child population can be attributed to home schooling. Home schooled students living in the District are required to register with the Clackamas Educational Service District (CESD), though the statistics kept by the CESD are not precise because students who move out of the area are not required to drop their registration. Students who enroll in public schools after having been registered as home schooled are dropped from the home school registry. For the 2016-17 school year there were 217 OTSD residents registered as home-schooled, close to the number in 2011-12. See table 11 for details.

Private schools and home schooling help to explain the difference between the number of school-age children living in the District and the number attending District schools. Both represent “outflow” from the District — that is, children eligible but not attending District schools.

Table 11
Home School Students Residing in OTSD¹

	Grade 1-6	Grade 7-8	Grade 9-12	Total
2011-12 ²	75	47	100	222
2016-17 ³	105	42	70	217

1. Residents of OTSD age 7-18 enrolled with Clackamas Education Service District.

2. January 20, 2012.

3. June 30, 2017

Source: Clackamas Education Service District

Inter-District Transfers and Open Enrollment

The other “outflow” consists of District residents who attend public schools in other school districts. There is also a related “inflow” of residents from other districts.

During 2012-13 through 2017-18, OTSD netted a small outflow of 4 students as a result of inter-district transfers and open enrollment. Grades 9-12 had a total net inflow of 13 students, while K-5 and 6-8 had net outflows of 11 and 6 respectively. The six years were evenly split between net inflow years and net outflow years.

Inter-district transfer and open enrollment data appear in Table 12.

The Oregon Trail Academy has added grades from K-6 in 2012-13 to K-11 in 2017-18. Total out-of-district enrollment has increased from 26 students in 2012-13 to 53 in 2017-18. Average out-of-district enrollment per existing grade per year has increased from 3.71 in 2012-13 to 4.82 in 2017-18.

Table 12
OTSD Inter-District Transfers and Open Enrollment

	Into OTSD		Out of OTSD		Net
	Inter-District	Open Enrollment	Inter-District	Open Enrollment	
2012-13					
K-5	5	0	3	7	-5
6-8	6	0	7	2	-3
9-12	13	0	8	5	0
Net	24	0	18	14	-8
2013-14					
K-5	5	16	5	2	14
6-8	0	6	3	2	1
9-12	6	18	11	6	7
Net	11	40	19	10	22
2014-15					
K-5	2	8	4	17	-11
6-8	1	5	1	9	-4
9-12	5	15	14	15	-9
Net	8	28	19	41	-24
2015-16					
K-5	3	0	6	2	-5
6-8	1	0	0	1	0
9-12	11	19	8	6	16
Net	15	19	14	9	11
2016-17					
K-5	10	0	4	6	0
6-8	3	0	2	0	1
9-12	1	13	7	6	1
Net	14	13	13	12	2
2017-18					
K-5	3	0	4	3	-4
6-8	1	0	1	1	-1
9-12	6	5	9	4	-2
Net	10	5	14	8	-7

Source: Oregon Trail School District

ENROLLMENT FORECASTS

District-wide Long-range Forecast Methodology

To ensure that enrollment forecasts are consistent with the dynamics of likely population growth within the District, we combine a grade progression enrollment model with a demographic cohort-component model used to forecast population for the District by age and sex. The components of population change are births, deaths, and migration. Using age-specific fertility rates, age-sex specific mortality rates, age-sex specific migration rates, estimates of recent net migration levels, and forecasts of future migration levels, each component is applied to the base year population in a manner that simulates the actual dynamics of population change.

The 2000 and 2010 Census results are used as a baseline for the population forecasts. By “surviving” the 2000 population and 2000s births (estimating the population in each age group that would survive to the year 2010) and comparing the “survived” population to the actual 2010 population by age group, we are able to estimate the overall level of net migration between 2000 and 2010 as well as net migration by gender and age cohort. The net migration data were used to develop initial net migration rates, forming a baseline for rates used to forecast net migration for the 2010 to 2030 period.

We estimated the number of births to women residing within the District each year from 2000 to 2016, using data from the Oregon Department of Human Services, Center for Health Statistics. Detailed information including the age of mothers is incorporated in the establishment of age-specific fertility rates (ASFRs) for years 2000 and 2010.

School Enrollment and Population

School enrollment links to population in two ways. First, the kindergarten and first grade enrollments at the time of the most recent census (the 2009-10 school year) are compared to the population at the appropriate ages counted in the census. The “capture rate,” or ratio of enrollment to population, is an estimate of the share of area children enrolled in OTSD schools. Assumptions for capture rates based on census data are used to bring new kindergarten and first grade students into the District.

For purposes of forecasting enrollment, the ratios of kindergarten and first grade public school enrollment to overall population in the corresponding ages are very important. Once a student is enrolled in the public schools in first grade, it is very likely that they will continue to be enrolled in subsequent grades, unless their family moves out of the District. Kindergarten capture rates have recently increased due to the attraction of full day kindergarten. We estimate that about 85 percent of OTSD kindergarten-age residents will enroll in OTSD kindergartens throughout the forecast horizon.

The other way that historic population and enrollment are linked is through migration. Annual changes in school enrollment by cohort closely follow trends in the net migration of children in the District’s population. Once the students are in first grade, a set of baseline rates are used to move students from one grade to the next. A grade progression rate (GPR) is the ratio of enrollment in an individual grade to enrollment in the previous grade the previous year. Baseline rates, usually 1.00 for elementary grades, represent a scenario under which there is no change due to migration. Enrollment change beyond the baseline is added (or subtracted, if appropriate) at each grade level depending on the migration levels of the overall population by single year of age.

Population Forecast

Chart four displays the 2000 to 2010 estimates and 2010 to 2030 forecasts of OTSD population growth attributable to net migration. The 2010 to 2020 decade shows a population decrease attributable to net migration of 300 less persons than the previous decade (2000 to 2010). For the 2020 to 2030 decade, net migration rebounds to a high of 3,100 persons.

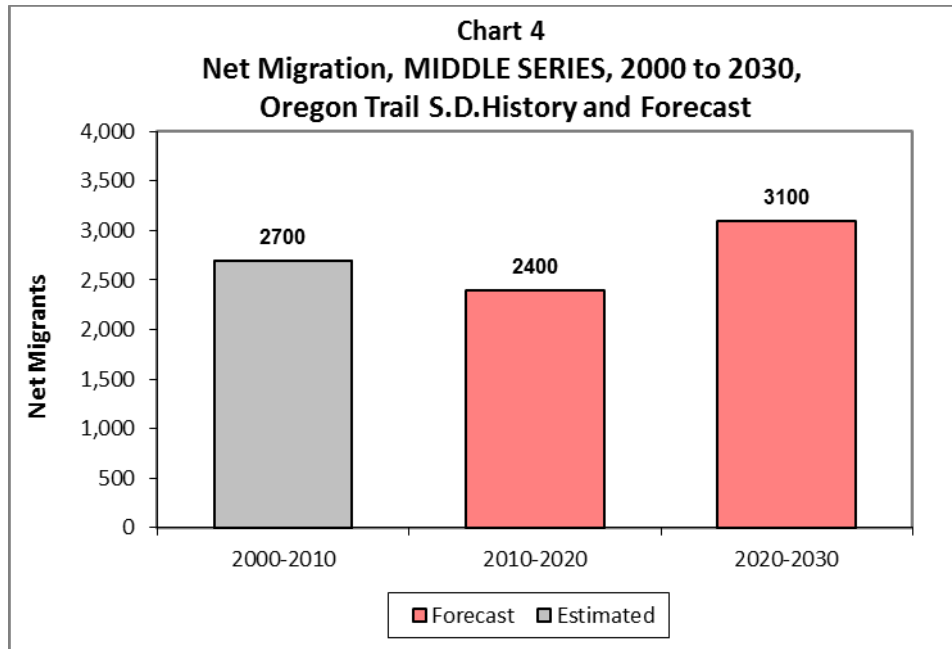


Table 10 details history and forecasts for Oregon Trail School District population by age groups. The 2010 population for the OTSD was 28,038, an increase of 3,934 persons from the 2000 Census (1.5 percent average annual growth rate, or AAGR). The forecast for 2020 population in the OTSD is 31,249, an increase of 3,211 persons from the 2010 Census (1.1 percent AAGR). The 2030 population forecast is 34,348, an increase of 3,099 persons from the 2020 Census (0.9 percent AAGR).

School-age population (5 to 17) decreased by 54 persons between 2000 and 2010, and its share of total population declined by 3 percentage points. Between 2010 and 2020, school age population is expected to increase by 307, although the total population increase results in school-age share dropping by 0.8 percentage points. Between 2020 and 2030 school-age population is expected to increase by 1 percentage point, ending at 17.3 percent.

Table 13
Population by Age Group, MIDDLE SERIES Forecast
Oregon Trail School District, 2000 to 2030

	2000 Census	2010 Census	2020 Forecast	2030 Forecast	2010 to 2030 Change	
					Number	Percent
Under Age 5	1,408	1,604	1,789	1,839	235	15%
Age 5 to 9	1,693	1,643	1,952	2,140	497	30%
Age 10 to 14	1,941	1,959	2,012	2,375	416	21%
Age 15 to 17	1,215	1,193	1,138	1,420	227	19%
Age 18 to 19	656	698	627	677	-21	-3%
Age 20 to 24	1,159	1,360	1,314	1,381	21	2%
Age 25 to 29	1,184	1,519	1,516	1,428	-91	-6%
Age 30 to 34	1,439	1,716	1,882	1,881	165	10%
Age 35 to 39	1,898	1,766	2,116	2,192	426	24%
Age 40 to 44	2,287	1,768	2,028	2,270	502	28%
Age 45 to 49	2,253	2,187	1,977	2,403	216	10%
Age 50 to 54	1,941	2,367	1,808	2,087	-280	-12%
Age 55 to 59	1,460	2,389	2,278	2,077	-312	-13%
Age 60 to 64	1,066	1,981	2,381	1,832	-149	-8%
Age 65 to 69	794	1,404	2,275	2,182	778	55%
Age 70 to 74	664	949	1,761	2,128	1,179	124%
Age 75 to 79	490	655	1,153	1,873	1,218	186%
Age 80 to 84	329	457	659	1,226	769	168%
Age 85 and over	227	423	583	936	513	121%
Total Population	24,104	28,038	31,249	34,348	6,310	23%
Total age 5 to 17	4,849	4,795	5,102	5,935	1,140	24%
share age 5 to 17	20.1%	17.1%	16.3%	17.3%		

	2000-2010	2010-2020	2020-2030
Population Change	3,934	3,211	3,099
<i>Percent</i>	16%	11%	10%
<i>Average Annual</i>	1.5%	1.1%	0.9%

Source: U.S. Census Bureau, 2000 and 2010 Censuses; data aggregated to OTSD boundary by Portland State University Population Research Center. PSU-PRC Forecasts, 2020 and 2030.

District-wide Enrollment Forecast

Chart 5 compares the historic and forecast number of births in the District with the historic and forecast number of OTSD kindergarten students under the *Middle Range* scenario. Births correspond to kindergarten cohorts (September to August). Although children move into and out of the District between birth and age five, and not all District residents attend OTSD kindergartens, kindergarten enrollment has remained close to the number of births five years earlier. Because the kindergarten capture rate is assumed to be 85 percent, ratios of kindergarten enrollment to births above 0.85 indicate gains due to positive net migration. Throughout the forecast, net migration between birth and age five contributes to the population of young children within the District.

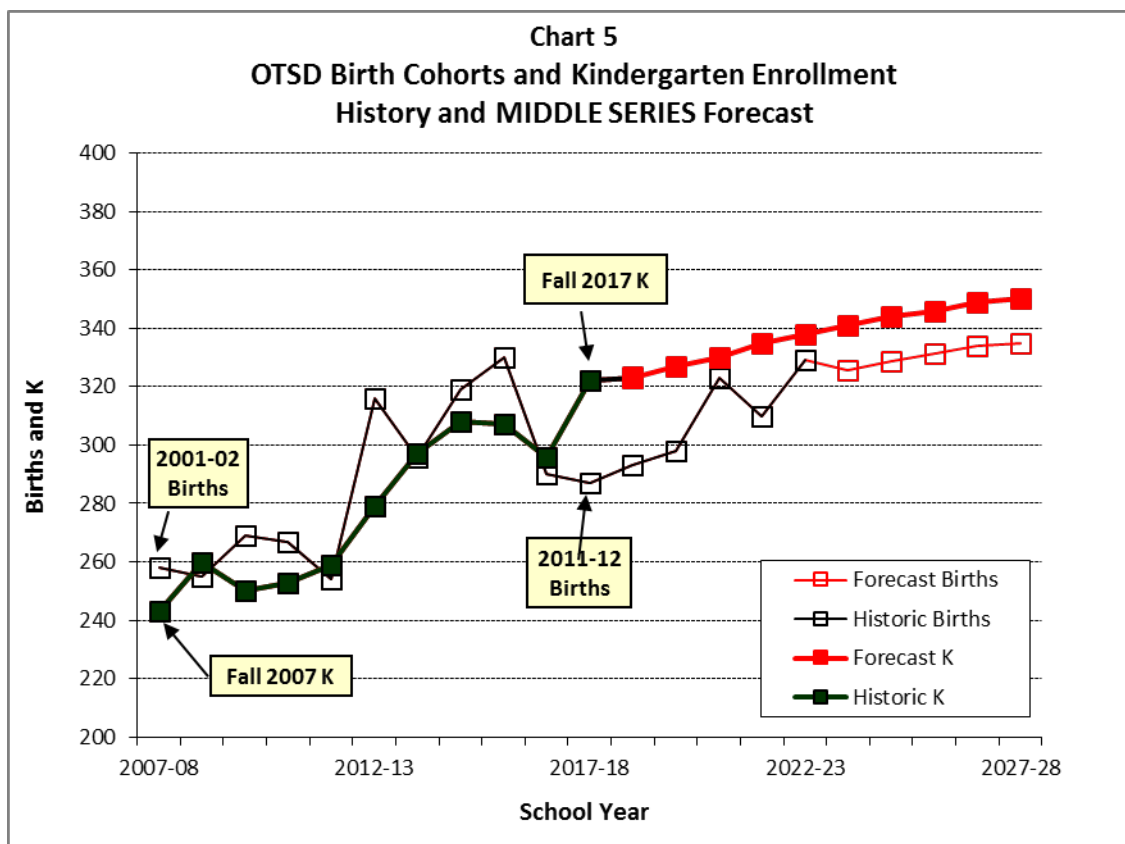


Table 14 contains detailed *Middle Range* forecasts for the Oregon Trail School District by grade level annually for the 10 year period. Total K-12 enrollment increases steadily, reaching 5,067 in 2027-28. The District adds 648 students (15 percent) for the entire 10 year period between 2017-18 and 2027-28. The largest numeric growth occurs in grades K-5 (278 students) and the greatest percentage increase is in grades 6-8 (21 percent).

The first and second halves of the forecast have close-to-equal increases, 339 and 309 students (eight percent and six percent) respectively.

Detailed annual forecasts by grade level for the low and high range scenarios are included in Appendix A.

Table 14

Oregon Trail School District MIDDLE SERIES Enrollment Forecasts, 2018-19 to 2027-28

Actual		Forecast									
Grade	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
K	323	327	330	335	338	341	344	346	349	350	350
1	323	330	335	340	345	348	350	353	356	359	360
2	288	329	336	343	348	354	357	359	362	365	368
3	319	294	335	344	352	357	363	366	368	371	374
4	340	326	301	344	353	361	366	372	376	378	381
5	350	348	334	309	353	362	371	376	382	386	388
6	354	365	363	350	324	370	379	389	394	400	404
7	340	362	374	372	359	332	379	389	399	404	410
8	320	347	370	382	380	367	339	387	398	408	413
9	361	354	384	406	419	417	402	372	424	437	447
10	364	358	351	375	396	409	407	392	363	414	427
11	382	354	348	336	359	379	391	389	375	347	396
12	355	391	362	350	338	361	381	393	391	377	349
Total	4,419	4,485	4,523	4,586	4,664	4,758	4,829	4,883	4,937	4,996	5,067
K-5	1,943	1,954	1,971	2,015	2,089	2,123	2,151	2,172	2,193	2,209	2,221
6-8	1,014	1,074	1,107	1,104	1,063	1,069	1,097	1,165	1,191	1,212	1,227
9-12	1,462	1,457	1,445	1,467	1,512	1,566	1,581	1,546	1,553	1,575	1,619

K-5	5 Year Change:			5 Year Change:			10 Year Change:		
	2017-18 to 2022-23			2022-23 to 2027-28			2017-18 to 2027-28		
	Change	Pct.		Change	Pct.		Change	Pct.	
	180	9%		98	5%		278	14%	
	55	5%		158	15%		213	21%	
6-8									
9-12									
Total									

Population Research Center, Portland State University, November 2017.

Individual School Forecasts

Forecasts for individual schools are consistent with the *middle range* district-wide growth forecast, under a scenario in which current boundaries and grade configurations remain constant. Of course, school districts typically respond to enrollment change in various ways that might alter the status quo, such as attendance area boundary changes, opening new schools, closing schools, and policy or program changes. If new charter or private schools open, enrollment at District-run schools may be affected. However, the individual school forecasts depict what future enrollments might be under current conditions.

The methodology for the individual school forecasts relies on unique sets of GPRs for each school. New kindergarten classes were forecast each year based on recent trends and birth cohorts within elementary attendance areas. Subsequent grades were forecast using GPRs based initially on recent rates and adjusted based on expected levels of housing growth. The final forecasts for individual schools are controlled to match the district-wide forecasts. Table 15 presents the enrollment forecasts for each school, grouped by school level (elementary, middle, and high).

Elementary schools as a group grows by 277 students over the 10-year forecast period (2017-18 to 2027-28). The five elementary schools all show enrollment increases over the 10 years, ranging from 10 students at Welches ES to 78 at Firwood. Two others, Kelso, and Sandy, are on the high end with Firwood at 77 and 71 respectively. Naas occupies the middle ground at 41.

OTSD's three middle schools grow by a combined total of 206. The largest increase (158 students) occurs at Boring middle school. A significant share of OTSD's current and future residential construction activity is slated for the Boring MSAA. Cedar Ridge increases by 61 students by 2027-28, a 14 percent increase. Welches declines by 13 students (13 percent).

Sandy high school sees growth of 120 students over the forecast period. Average annual enrollment is 1,473. The first four years are below that average, followed by six years above the average. The largest annual increase, 50 students, occurs between 2021-22 and 2022-23. The last year of the forecast has an increase of 44 students.

Table 15
Enrollment Forecasts for Individual Schools, 2018-19 to 2027-28

School	Forecast											Change 2017-18- 2027-28
	Actual 2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	
Firwood Elementary School	433	429	431	441	470	480	496	500	504	508	511	78
Kelso Elementary School	373	379	388	396	415	424	432	437	444	448	450	77
Naas Elementary School	408	394	402	418	427	446	437	439	443	446	449	41
Sandy Grade School	353	378	381	390	403	401	410	416	419	422	424	71
Welches Elementary School	209	207	201	202	206	204	208	212	215	217	219	10
Elementary School Totals	1,776	1,787	1,803	1,847	1,921	1,955	1,983	2,004	2,025	2,041	2,053	277
Boring Middle School	414	453	480	489	480	489	523	551	569	565	572	158
Cedar Ridge Middle School	424	439	449	439	412	410	405	445	454	478	485	61
Welches Middle School	99	98	95	93	88	86	85	85	84	85	86	-13
Middle School Totals	937	990	1,024	1,021	980	985	1,013	1,081	1,107	1,128	1,143	206
Sandy High School	1,434	1,420	1,399	1,414	1,451	1,501	1,516	1,481	1,488	1,510	1,554	120
Oregon Trail Academy	272	288	297	304	312	317	317	317	317	317	317	45
District Totals	4,419	4,485	4,523	4,586	4,664	4,758	4,829	4,883	4,937	4,996	5,067	648

Population Research Center, Portland State University, November 2017

FORECAST ACCURACY

Forecasts should be understood to represent a range of outcomes even though discrete numbers are provided. Due to the nature of forecasting, there is no way to estimate a confidence interval as one might for data collected from a survey. The best way to measure potential forecast error is to compare actual enrollments with previous forecasts that were conducted using similar data and methodologies.

Table 16 compares actual OTSD enrollment by grade level in Fall 2017 with the 2011-12 forecasts prepared in February 2012, and the 2006-07 forecasts prepared in February 2007. Actual K-12 enrollment was 192 students more than the six year forecast and two students less than the 11 year forecasts. As a measure of average error for individual grade levels, the mean absolute percent error (MAPE) is included in the table. It is 5.8 and 5.7 percent for the six and 11 year forecasts, respectively.

Table 16 Fall 2017 Enrollment Compared to Previous OTSD Districtwide Forecasts by Grade Level							
Grade	Actual	Six year forecast ¹			11 year forecast ²		
		Fcst.	Diff.	Error	Fcst.	Diff.	Error
K	323	287	36	11.1%	308	-15	-4.6%
1	323	302	21	6.5%	323	0	0.0%
2	288	298	-10	-3.5%	328	40	13.9%
3	319	308	11	3.4%	336	17	5.3%
4	340	335	5	1.5%	344	4	1.2%
5	350	337	13	3.7%	342	-8	-2.3%
6	354	336	18	5.1%	328	-26	-7.3%
7	340	328	12	3.5%	333	-7	-2.1%
8	320	327	-7	-2.2%	346	26	8.1%
9	361	327	34	9.4%	388	27	7.5%
10	364	336	28	7.7%	365	1	0.3%
11	382	334	48	12.6%	314	-68	-17.8%
12	355	372	-17	-4.8%	366	11	3.1%
Total	4,419	4,227	192	4.3%	4,421	2	0.0%
MAPE³				5.8%			5.7%
¹ Forecast for 2017-18 by PSU-PRC, baseline 2011-12 enrollment, Feb 2012 ² Forecast for 2017-18 by PSU-PRC, baseline 2006-17 enrollment, Feb 2007 ³ Mean absolute percent error for individual grades K-12.							

APPENDIX A

OTSD LOW AND HIGH FORECAST SCENARIOS, 2018-19 TO 2027-28

Table A-1

Oregon Trail School District LOW SERIES Enrollment Forecasts, 2018-19 to 2027-28

Grade	Actual		Forecast									
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	
K	323	315	316	319	321	321	324	327	327	329	329	
1	323	320	321	325	327	329	329	333	335	336	338	
2	288	326	324	329	333	335	337	337	341	343	344	
3	319	291	330	332	337	341	343	345	345	349	351	
4	340	322	296	338	340	345	349	351	353	353	358	
5	350	344	327	303	346	349	354	358	360	362	362	
6	354	361	357	342	317	362	365	370	374	376	378	
7	340	358	367	365	350	325	371	374	379	383	385	
8	320	343	363	375	373	357	332	379	382	387	391	
9	361	351	377	398	411	409	391	364	416	419	424	
10	364	355	346	368	389	401	399	382	355	406	409	
11	382	351	343	331	352	372	383	382	365	339	388	
12	355	387	357	345	333	354	374	385	384	367	341	
Total	4,419	4,424	4,424	4,470	4,529	4,600	4,651	4,687	4,716	4,749	4,798	
K-5	1,943	1,918	1,914	1,946	2,004	2,020	2,036	2,051	2,061	2,072	2,082	
6-8	1,014	1,062	1,087	1,082	1,040	1,044	1,068	1,123	1,135	1,146	1,154	
9-12	1,462	1,444	1,423	1,442	1,485	1,536	1,547	1,513	1,520	1,531	1,562	

5 Year Change:

2017-18 to 2022-23

	Change	Pct.
K-5	77	4%
6-8	30	3%
9-12	74	5%
Total	181	4%

5 Year Change:

2022-23 to 2027-28

	Change	Pct.
K-5	62	3%
6-8	110	11%
9-12	26	2%
Total	198	4%

10 Year Change:

2017-18 to 2027-28

	Change	Pct.
K-5	139	7%
6-8	140	14%
9-12	100	7%
Total	379	9%

Population Research Center, Portland State University, November 2017.

Table A-2

Oregon Trail School District HIGH SERIES Enrollment Forecasts, 2018-19 to 2027-28

Grade	Actual		Forecast											
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28			
K	323	343	346	350	354	357	362	367	370	370	373			
1	323	347	354	356	361	364	367	373	377	381	381			
2	288	334	357	363	365	370	373	376	383	387	391			
3	319	297	343	366	372	374	380	383	386	393	397			
4	340	330	305	352	376	382	384	390	393	396	404			
5	350	351	339	313	362	386	393	395	401	404	407			
6	354	368	367	355	328	379	405	412	414	420	423			
7	340	365	377	377	364	337	389	416	423	425	431			
8	320	351	374	386	386	373	345	398	426	433	435			
9	361	358	391	411	424	424	410	379	437	468	476			
10	364	361	357	382	402	415	415	401	371	427	458			
11	382	356	352	342	366	385	398	398	384	355	409			
12	355	393	365	355	345	369	388	401	401	387	358			
Total	4,419	4,554	4,627	4,708	4,805	4,915	5,009	5,089	5,166	5,246	5,343			
K-5	1,943	2,002	2,044	2,100	2,190	2,233	2,259	2,284	2,310	2,331	2,353			
6-8	1,014	1,084	1,118	1,118	1,078	1,089	1,139	1,226	1,263	1,278	1,289			
9-12	1,462	1,468	1,465	1,490	1,537	1,593	1,611	1,579	1,593	1,637	1,701			

5 Year Change:

2017-18 to 2022-23

	Change	Pct.
K-5	290	15%
6-8	75	7%
9-12	131	9%
Total	496	11%

5 Year Change:

2022-23 to 2027-28

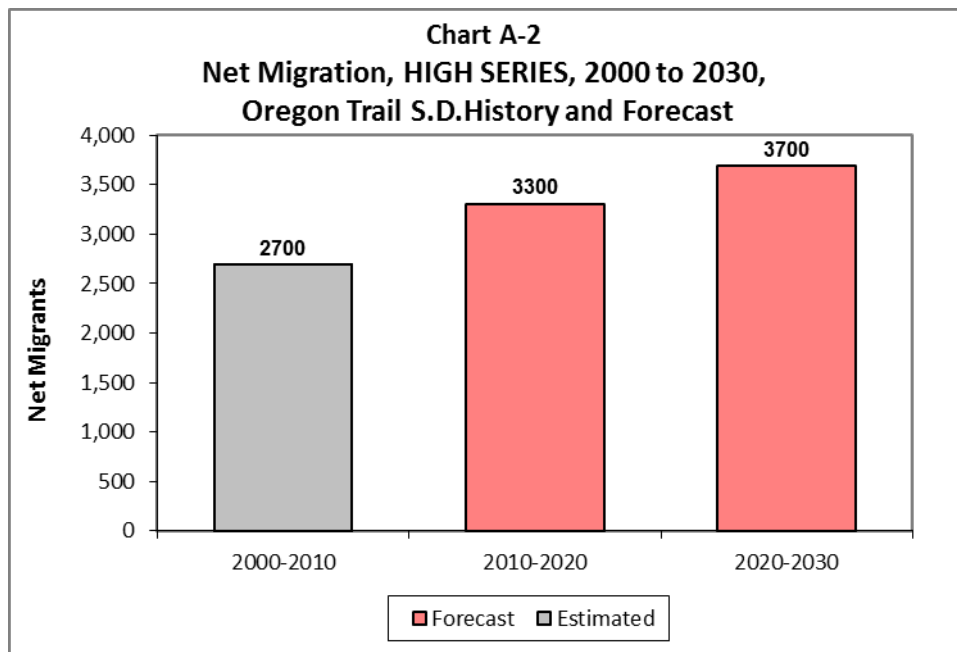
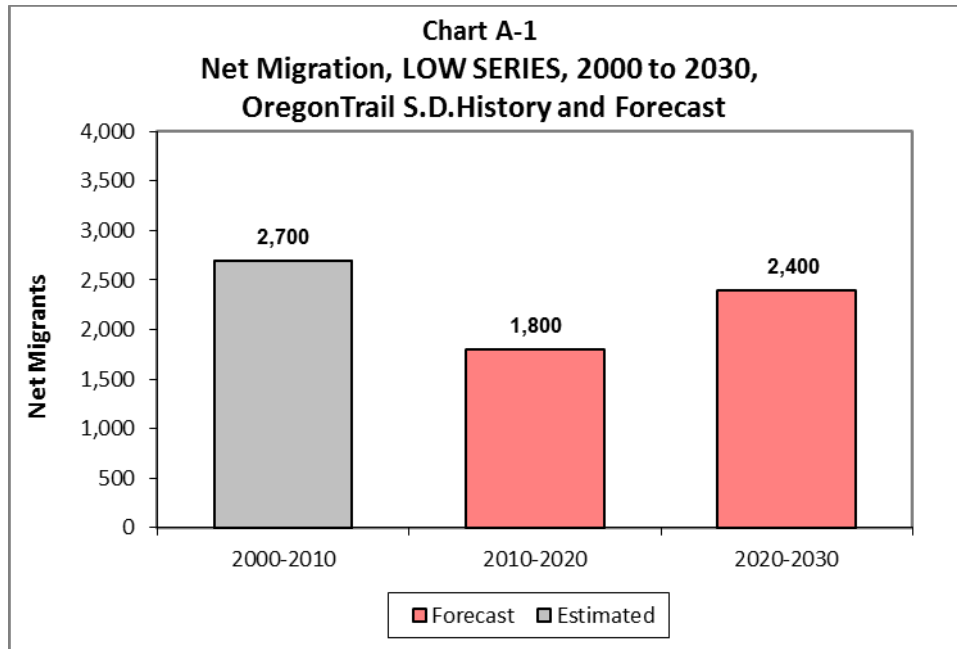
	Change	Pct.
K-5	120	5%
6-8	200	18%
9-12	108	7%
Total	428	9%

10 Year Change:

2017-18 to 2027-28

	Change	Pct.
K-5	410	21%
6-8	275	27%
9-12	239	16%
Total	924	21%

Population Research Center, Portland State University, November 2017.



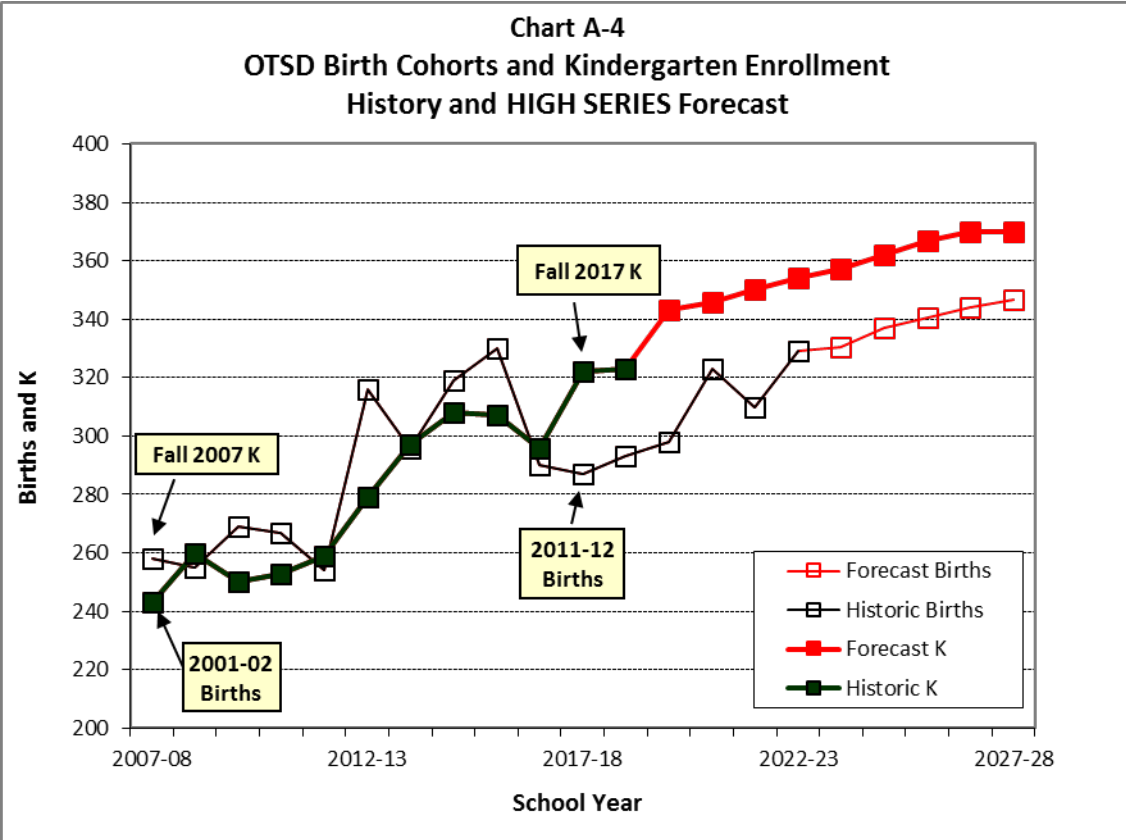
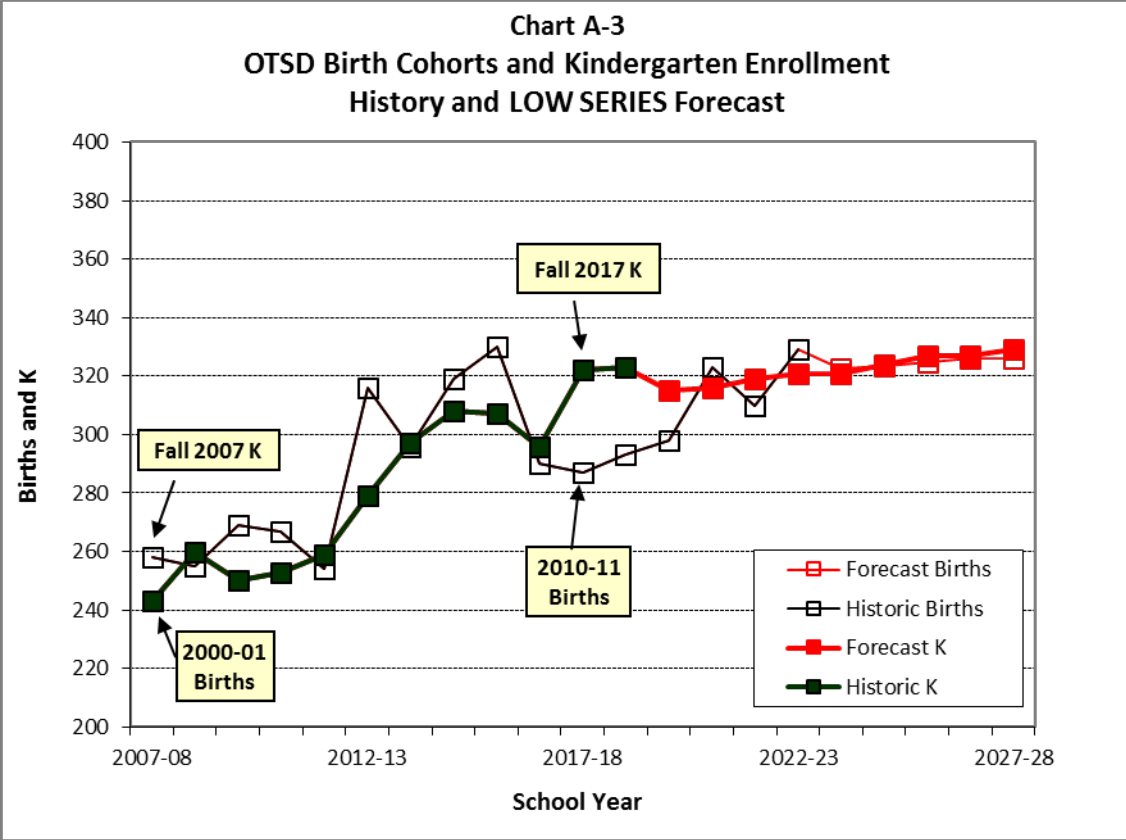


Table A3
Population by Age Group , LOW SERIES Forecast
Oregon Trail School District, 2000 to 2030

	2000 Census	2010 Census	2020 Forecast	2030 Forecast	2010 to 2030 Change	
					Number	Percent
Under Age 5	1,408	1,604	1,718	1,739	135	8%
Age 5 to 9	1,693	1,643	1,885	2,003	360	22%
Age 10 to 14	1,941	1,959	1,962	2,220	261	13%
Age 15 to 17	1,215	1,193	1,110	1,346	153	13%
Age 18 to 19	656	698	627	665	-33	-5%
Age 20 to 24	1,159	1,360	1,285	1,302	-58	-4%
Age 25 to 29	1,184	1,519	1,485	1,364	-155	-10%
Age 30 to 34	1,439	1,716	1,830	1,808	92	5%
Age 35 to 39	1,898	1,766	2,066	2,110	344	19%
Age 40 to 44	2,287	1,768	1,995	2,185	417	24%
Age 45 to 49	2,253	2,187	1,936	2,306	119	5%
Age 50 to 54	1,941	2,367	1,776	2,024	-343	-14%
Age 55 to 59	1,460	2,389	2,234	2,002	-387	-16%
Age 60 to 64	1,066	1,981	2,337	1,773	-208	-10%
Age 65 to 69	794	1,404	2,232	2,109	705	50%
Age 70 to 74	664	949	1,729	2,058	1,109	117%
Age 75 to 79	490	655	1,130	1,811	1,156	176%
Age 80 to 84	329	457	649	1,190	733	160%
Age 85 and over	227	423	569	899	476	113%
Total Population	24,104	28,038	30,555	32,915	4,877	17%
Total age 5 to 17	4,849	4,795	4,957	5,569	774	16%
<i>share age 5 to 17</i>	<i>20.1%</i>	<i>17.1%</i>	<i>16.2%</i>	<i>16.9%</i>		

	2000-2010	2010-2020	2020-2030
Population Change	3,934	2,517	2,359
<i>Percent</i>	<i>16%</i>	<i>9%</i>	<i>8%</i>
<i>Average Annual</i>	<i>1.5%</i>	<i>0.9%</i>	<i>0.7%</i>

Source: U.S. Census Bureau, 2000 and 2010 Censuses; data aggregated to OTSD boundary by Portland State University Population Research Center. PSU-PRC Forecasts, 2020 and 2030.

Table A4
Population by Age Group, HIGH SERIES Forecast
Oregon Trail School District, 2000 to 2030

	2000 Census	2010 Census	2020 Forecast	2030 Forecast	2010 to 2030 Change	
					Number	Percent
Under Age 5	1,408	1,604	1,870	2,006	402	25%
Age 5 to 9	1,693	1,643	2,062	2,287	644	39%
Age 10 to 14	1,941	1,959	2,180	2,517	558	28%
Age 15 to 17	1,215	1,193	1,242	1,512	319	27%
Age 18 to 19	656	698	659	722	24	3%
Age 20 to 24	1,159	1,360	1,363	1,563	203	15%
Age 25 to 29	1,184	1,519	1,556	1,585	66	4%
Age 30 to 34	1,439	1,716	1,916	1,972	256	15%
Age 35 to 39	1,898	1,766	2,154	2,273	507	29%
Age 40 to 44	2,287	1,768	2,066	2,333	565	32%
Age 45 to 49	2,253	2,187	2,010	2,478	291	13%
Age 50 to 54	1,941	2,367	1,831	2,151	-216	-9%
Age 55 to 59	1,460	2,389	2,310	2,137	-252	-11%
Age 60 to 64	1,066	1,981	2,414	1,878	-103	-5%
Age 65 to 69	794	1,404	2,305	2,240	836	60%
Age 70 to 74	664	949	1,784	2,184	1,235	130%
Age 75 to 79	490	655	1,166	1,921	1,266	193%
Age 80 to 84	329	457	660	1,245	788	172%
Age 85 and over	227	423	590	954	531	126%
Total Population	24,104	28,038	32,138	35,958	7,920	28%
Total age 5 to 17	4,849	4,795	5,484	6,316	1,521	32%
share age 5 to 17	20.1%	17.1%	17.1%	17.6%		

	2000-2010	2010-2020	2020-2030
Population Change	3,934	4,100	3,820
<i>Percent</i>	<i>16%</i>	<i>15%</i>	<i>12%</i>
<i>Average Annual</i>	<i>1.5%</i>	<i>1.4%</i>	<i>1.1%</i>

Source: U.S. Census Bureau, 2000 and 2010 Censuses; data aggregated to OTSD boundary by Portland State University Population Research Center. PSU-PRC Forecasts, 2020 and 2030.

APPENDIX B

2000 AND 2010 CENSUS PROFILE FOR THE DISTRICT

2000 and 2010 Census Profile

Oregon Trail School District

Approximation based on census blocks

POPULATION	2000		2010		Change	
SEX AND AGE						
Total population	24,104	100.0%	28,038	100.0%	3,934	16.3%
Under 5 years	1,408	5.8%	1,604	5.7%	196	13.9%
5 to 9 years	1,693	7.0%	1,643	5.9%	-50	-3.0%
10 to 14 years	1,941	8.1%	1,959	7.0%	18	0.9%
15 to 19 years	1,871	7.8%	1,891	6.7%	20	1.1%
20 to 24 years	1,159	4.8%	1,360	4.9%	201	17.3%
25 to 29 years	1,184	4.9%	1,519	5.4%	335	28.3%
30 to 34 years	1,439	6.0%	1,716	6.1%	277	19.2%
35 to 39 years	1,898	7.9%	1,766	6.3%	-132	-7.0%
40 to 44 years	2,287	9.5%	1,768	6.3%	-519	-22.7%
45 to 49 years	2,253	9.3%	2,187	7.8%	-66	-2.9%
50 to 54 years	1,941	8.1%	2,367	8.4%	426	21.9%
55 to 59 years	1,460	6.1%	2,389	8.5%	929	63.6%
60 to 64 years	1,066	4.4%	1,981	7.1%	915	85.8%
65 to 69 years	794	3.3%	1,404	5.0%	610	76.8%
70 to 74 years	664	2.8%	949	3.4%	285	42.9%
75 to 79 years	490	2.0%	655	2.3%	165	33.7%
80 to 84 years	329	1.4%	457	1.6%	128	38.9%
85 years and over	227	0.9%	423	1.5%	196	86.3%
Median age (years)	38.6		41.6		3.0	
Under 18 years	6,257	26.0%	6,399	22.8%	142	2.3%
18 to 64 years	15,343	63.7%	17,751	63.3%	2,408	15.7%
65 years and over	2,504	10.4%	3,888	13.9%	1,384	55.3%
Male population	12,312	100.0%	14,138	100.0%	1,826	14.8%
Under 5 years	745	6.1%	839	5.9%	94	12.6%
5 to 9 years	873	7.1%	835	5.9%	-38	-4.4%
10 to 14 years	996	8.1%	1,018	7.2%	22	2.2%
15 to 19 years	1,014	8.2%	961	6.8%	-53	-5.2%
20 to 24 years	628	5.1%	723	5.1%	95	15.1%
25 to 29 years	625	5.1%	760	5.4%	135	21.6%
30 to 34 years	705	5.7%	879	6.2%	174	24.7%
35 to 39 years	943	7.7%	911	6.4%	-32	-3.4%
40 to 44 years	1,126	9.1%	892	6.3%	-234	-20.8%
45 to 49 years	1,167	9.5%	1,106	7.8%	-61	-5.2%
50 to 54 years	990	8.0%	1,170	8.3%	180	18.2%
55 to 59 years	766	6.2%	1,212	8.6%	446	58.2%
60 to 64 years	565	4.6%	987	7.0%	422	74.7%
65 to 69 years	405	3.3%	715	5.1%	310	76.5%
70 to 74 years	335	2.7%	468	3.3%	133	39.7%
75 to 79 years	218	1.8%	330	2.3%	112	51.4%
80 to 84 years	120	1.0%	207	1.5%	87	72.5%
85 years and over	91	0.7%	125	0.9%	34	37.4%

Sources: U.S. Census Bureau, 2010 Census, Summary File 1; 2000 Census, Summary File 1.

Tabulated by Population Research Center, Portland State University.

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2000 and 2010 Census Profile

Oregon Trail School District

Approximation based on census blocks

POPULATION (continued)	2000		2010		Change	
Male population (continued)						
Median age (years)	38.0		40.8		2.8	
Under 18 years	3,255	26.4%	3,281	23.2%	26	0.8%
18 to 64 years	7,888	64.1%	9,012	63.7%	1,124	14.2%
65 years and over	1,169	9.5%	1,845	13.0%	676	57.8%
Female population	11,792	100.0%	13,900	100.0%	2,108	17.9%
Under 5 years	663	5.6%	765	5.5%	102	15.4%
5 to 9 years	820	7.0%	808	5.8%	-12	-1.5%
10 to 14 years	945	8.0%	941	6.8%	-4	-0.4%
15 to 19 years	857	7.3%	930	6.7%	73	8.5%
20 to 24 years	531	4.5%	637	4.6%	106	20.0%
25 to 29 years	559	4.7%	759	5.5%	200	35.8%
30 to 34 years	734	6.2%	837	6.0%	103	14.0%
35 to 39 years	955	8.1%	855	6.2%	-100	-10.5%
40 to 44 years	1,161	9.8%	876	6.3%	-285	-24.5%
45 to 49 years	1,086	9.2%	1,081	7.8%	-5	-0.5%
50 to 54 years	951	8.1%	1,197	8.6%	246	25.9%
55 to 59 years	694	5.9%	1,177	8.5%	483	69.6%
60 to 64 years	501	4.2%	994	7.2%	493	98.4%
65 to 69 years	389	3.3%	689	5.0%	300	77.1%
70 to 74 years	329	2.8%	481	3.5%	152	46.2%
75 to 79 years	272	2.3%	325	2.3%	53	19.5%
80 to 84 years	209	1.8%	250	1.8%	41	19.6%
85 years and over	136	1.2%	298	2.1%	162	119.1%
Median age (years)	39.1		42.4		3.3	
Under 18 years	3,002	25.5%	3,118	22.4%	116	3.9%
18 to 64 years	7,455	63.2%	8,739	62.9%	1,284	17.2%
65 years and over	1,335	11.3%	2,043	14.7%	708	53.0%

AREA AND DENSITY

Land Area - Acres ¹	267,532		267,797			
Persons per acre	0.1		0.1		0.0	16.2%
Persons per square mile	58		67		9	16.2%

RACE

Total population	24,104	100.0%	28,038	100.0%	3,934	16.3%
White alone	22,575	93.7%	25,724	91.7%	3,149	13.9%
Black or African American alone	59	0.2%	79	0.3%	20	33.9%
American Indian and Alaska Native alone	288	1.2%	317	1.1%	29	10.1%
Asian alone	156	0.6%	310	1.1%	154	98.7%
Native Hawaiian and Other Pacific Islander alone	30	0.1%	31	0.1%	1	3.3%
Some Other Race alone	459	1.9%	796	2.8%	337	73.4%
Two or More Races	537	2.2%	781	2.8%	244	45.4%

Sources: U.S. Census Bureau, 2010 Census, Summary File 1; 2000 Census, Summary File 1.

Tabulated by Population Research Center, Portland State University.

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2000 and 2010 Census Profile

Oregon Trail School District

Approximation based on census blocks

POPULATION (continued)	2000		2010		Change	
RACE (continued)						
Race alone or in combination with one or more other races ²						
White	23,076	95.7%	26,459	94.4%	3,383	14.7%
Black or African American	105	0.4%	187	0.7%	82	78.1%
American Indian and Alaska Native	566	2.3%	719	2.6%	153	27.0%
Asian	286	1.2%	539	1.9%	253	88.5%
Native Hawaiian and Other Pacific Islander	66	0.3%	92	0.3%	26	39.4%
Some Other Race	593	2.5%	882	3.1%	289	48.7%
HISPANIC OR LATINO AND RACE						
Total population	24,104	100.0%	28,038	100.0%	3,934	16.3%
Hispanic or Latino	1,003	4.2%	1,931	6.9%	928	92.5%
Not Hispanic or Latino	23,101	95.8%	26,107	93.1%	3,006	13.0%
White alone	22,153	91.9%	24,758	88.3%	2,605	11.8%
Black or African American alone	57	0.2%	72	0.3%	15	26.3%
American Indian and Alaska Native alone	249	1.0%	260	0.9%	11	4.4%
Asian alone	156	0.6%	302	1.1%	146	93.6%
Native Hawaiian and Other Pacific Islander alone	25	0.1%	31	0.1%	6	24.0%
Some Other Race alone	20	0.1%	20	0.1%	0	0.0%
Two or More Races	441	1.8%	664	2.4%	223	50.6%
RELATIONSHIP						
Total population	24,104	100.0%	28,038	100.0%	3,934	16.3%
In households	23,975	99.5%	28,000	99.9%	4,025	16.8%
In family households	20,861	86.5%	23,880	85.2%	3,019	14.5%
Householder	6,603	27.4%	7,741	27.6%	1,138	17.2%
Spouse ³	5,550	23.0%	6,204	22.1%	654	11.8%
Child	7,178	29.8%	7,675	27.4%	497	6.9%
Own child under 18 years	5,682	23.6%	5,641	20.1%	-41	-0.7%
Other relatives	947	3.9%	1,488	5.3%	541	57.1%
Nonrelatives	583	2.4%	772	2.8%	189	32.4%
In nonfamily households	3,114	12.9%	4,120	14.7%	1,006	32.3%
Householder	2,377	9.9%	3,172	11.3%	795	33.4%
Nonrelatives	737	3.1%	948	3.4%	211	28.6%
Population under 18 in households	6,234	99.6%	6,387	99.8%	153	2.5%
Population 18 to 64 in households	15,277	99.6%	17,725	99.9%	2,448	16.0%
Population 65 and over in households	2,464	98.4%	3,888	100.0%	1,424	57.8%
In group quarters	129	0.5%	38	0.1%	-91	-70.5%

Sources: U.S. Census Bureau, 2010 Census, Summary File 1; 2000 Census, Summary File 1.

Tabulated by Population Research Center, Portland State University.

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2000 and 2010 Census Profile

Oregon Trail School District

Approximation based on census blocks

POPULATION (continued)	2000		2010		Change	
GROUP QUARTERS						
Total group quarters population	129	100.0%	38	100.0%	-91	-70.5%
Institutionalized population	15	11.6%	11	28.9%	-4	-26.7%
Male	15	11.6%	11	28.9%	-4	-26.7%
Female	0	0.0%	0	0.0%	0	--
Noninstitutionalized population	114	88.4%	27	71.1%	-87	-76.3%
Male	57	44.2%	14	36.8%	-43	-75.4%
Female	57	44.2%	13	34.2%	-44	-77.2%
Population under 18 in group quarters	23	0.4%	12	0.2%	-11	-47.8%
Population 18 to 64 in group quarters	66	0.4%	26	0.1%	-40	-60.6%
Population 65 and over in group quarters	40	1.6%	0	0.0%	-40	-100.0%

HOUSEHOLDS	2000		2010		Change	
Total households	8,980	100.0%	10,913	100.0%	1,933	21.5%
Family households (families) ⁴	6,603	73.5%	7,741	70.9%	1,138	17.2%
With own children under 18 years	2,989	33.3%	3,011	27.6%	22	0.7%
Husband-wife family	5,550	61.8%	6,204	56.8%	654	11.8%
With own children under 18 years	2,365	26.3%	2,203	20.2%	-162	-6.8%
Male householder, no wife present	371	4.1%	547	5.0%	176	47.4%
With own children under 18 years	222	2.5%	290	2.7%	68	30.6%
Female householder, no husband present	682	7.6%	990	9.1%	308	45.2%
With own children under 18 years	402	4.5%	518	4.7%	116	28.9%
Nonfamily households ⁴	2,377	26.5%	3,172	29.1%	795	33.4%
Householder living alone	1,806	20.1%	2,423	22.2%	617	34.2%
Male	982	10.9%	1,240	11.4%	258	26.3%
65 years and over	195	2.2%	288	2.6%	93	47.7%
Female	824	9.2%	1,183	10.8%	359	43.6%
65 years and over	398	4.4%	605	5.5%	207	52.0%
Households with individuals under 18 years	3,265	36.4%	3,380	31.0%	115	3.5%
Households with individuals 65 years and over	1,811	20.2%	2,854	26.2%	1,043	57.6%
Average household size	2.67		2.57		-0.10	-3.9%
Average family size ⁴	3.07		2.99		-0.09	-2.8%

Sources: U.S. Census Bureau, 2010 Census, Summary File 1; 2000 Census, Summary File 1.

Tabulated by Population Research Center, Portland State University.

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2000 and 2010 Census Profile

Oregon Trail School District

Approximation based on census blocks

HOUSING UNITS	2000		2010		Change	
Total housing units	11,021	100.0%	13,695	100.0%	2,674	24.3%
Occupied housing units	8,980	81.5%	10,913	79.7%	1,933	21.5%
Owner occupied ⁵	7,146	79.6%	8,256	75.7%	1,110	15.5%
Owned with a mortgage or a loan	N/A		6,111	74.0%		
Owned free and clear	N/A		2,145	26.0%		
Renter occupied	1,834	20.4%	2,657	24.3%	823	44.9%
Vacant housing units ⁶	2,041	18.5%	2,782	20.3%	741	36.3%
For rent	154	7.5%	180	6.5%	26	16.9%
For sale only	203	9.9%	246	8.8%	43	21.2%
Rented or sold, not occupied	73	3.6%	59	2.1%	-14	-19.2%
For seasonal, recreational, or occasional use	1,483	72.7%	2,048	73.6%	565	38.1%
For migrant workers	7	0.3%	16	0.6%	9	128.6%
All other vacants	121	5.9%	233	8.4%	112	92.6%
Owner-occupied housing units	7,146	79.6%	8,256	75.7%	1,110	15.5%
Population in owner-occupied housing units	19,340		21,282		1,942	10.0%
Average household size of owner-occupied units	2.71		2.58		-0.13	-4.8%
Renter-occupied housing units	1,834	20.4%	2,657	24.3%	823	44.9%
Population in renter-occupied housing units	4,635		6,718		2,083	44.9%
Average household size of renter-occupied units	2.53		2.53		0.00	0.0%

1. Land area of the census blocks that approximate the area. The same boundaries were used for both 2000 and 2010; any differences in land area between 2000 and 2010 reflect changes to census block geography.
2. In combination with one or more of the other races listed. The six numbers may add to more than the total population, and the six percentages may add to more than 100 percent because individuals may report more than one race.
3. "Spouse" represents spouse of the householder. It does not reflect all spouses in a household. Responses of "same-sex spouse" were edited during processing to "unmarried partner."
4. "Family households" consist of a householder and one or more other people related to the householder by birth, marriage, or adoption. They do not include same-sex married couples even if the marriage was performed in a state issuing marriage certificates for same-sex couples unless there is at least one additional person related to the householder by birth or adoption. Same-sex couple households with no relatives of the householder present are tabulated in nonfamily households. "Nonfamily households" consist of people living alone and households which do not have any members related to the householder.
5. Percentage distribution of ownership categories ("owned with a mortgage or a loan" and "owned free and clear") adds to 100 percent.
6. Percentage distribution of vacancy categories ("for rent," etc.) adds to 100 percent.

Sources: U.S. Census Bureau, 2010 Census, Summary File 1; 2000 Census, Summary File 1.
 Tabulated by Population Research Center, Portland State University.













































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APPENDIX C

2007-2011 and 2012-2016 AMERICAN COMMUNITY SURVEY PROFILE FOR THE DISTRICT

Population, Housing, Social and Economic Profile

Oregon Trail School District 46, Oregon

	2007-2011			2012-2016			Compare
	Estimate	CV *	Margin of Error (+/-)	Estimate	CV *	Margin of Error (+/-)	Statistically Different?
POPULATION							
Total population	26,846		1,026	30,505		1,364	**
Percent under 18 years	22.4%		1.6%	22.1%		1.7%	
Percent 65 years and over	14.2%		1.3%	18.5%		1.6%	**
Median age (years)	43.0		1.8	43.2		1.5	
Percent white alone, non-Latino	88.0%		2.3%	89.4%		2.0%	
HOUSING							
Total housing units	13,373		377	14,722		348	**
Occupied housing units	10,689		341	11,654		367	**
Owner occupied	8,004		409	9,009		429	**
Percent owner-occupied	74.9%		3.2%	77.3%		2.4%	
Renter occupied	2,685		358	2,645		282	
Vacant housing units***	2,684		306	3,068		312	
Vacancy rate	20.1%		2.0%	20.8%		2.0%	
Average household size	2.49		0.08	2.61		0.08	**
Renter households paying more than 30 percent of household income on rent plus utilities	51.4%		9.1%	51.4%		9.1%	
SOCIAL							
Age 25+ with a bachelor's degree or higher	19.3%		2.3%	20.5%		1.9%	
Foreign-born population	1,342		352	1,657		419	
Percent foreign-born	5.0%		1.3%	5.4%		1.3%	
Age 5+ language other than English at home	1,634		408	2,377		652	
Percent language other than English	6.5%		1.6%	8.3%		2.1%	
ECONOMIC							
Median household income (2016 dollars)	\$65,740		\$3,680	\$62,892		\$2,693	
Per capita income (2016 dollars)	\$32,467		\$2,921	\$29,019		\$1,475	**
Percent of persons below poverty level	8.2%		2.0%	9.5%		1.9%	

* **Green**, **yellow**, and **red** icons indicate the reliability of each estimate using the coefficient of variation (CV). The lower the CV, the more reliable the data. **High reliability** (CV <15%) is shown in green, **medium reliability** (CV between 15-30% - be careful) is shown in yellow, and **low reliability** (CV >30% - use with extreme caution) is shown in red. However, there are no absolute rules for acceptable thresholds of reliability. Users should consider the margin of error and the need for precision.

** Indicates that the two estimates are statistically different at the 90 percent confidence level based on results of z-test taking into account the difference between the two estimates as well as an approximation of the standard errors of both estimates.

*** Vacant units include those for sale or rent, those sold or rented but not yet occupied, those held for seasonal, recreational, or occasional use, as well as other vacant such as homes under renovation, settlement of an estate, or foreclosures.

Source: U.S. Census Bureau, American Community Survey 5 year estimates. Surveys are collected over a 60 month period. Estimates represent average characteristics over the entire period. Tabulated by Population Research Center, Portland State University, with additional calculations from source data as needed.